IN THE CLAIMS

Please amend the claims as follows:

Claims 1-15 (Canceled).

Claim 16 (Previously Presented) Longitudinally pumped laser comprising:

an active lasing medium arranged in an optical cavity;

a pumping means emitting a pumping beam toward the active lasing medium;

means for coupling the pumping beam to the active lasing medium;

one or more non-homogeneously doped zones formed in the active lasing medium, and surrounded by a non-doped region forming a remainder of the active lasing medium and that has practically no dopant or no dopant at all, and

wherein at least one of a dimension of said doped zones and a distribution of dopants is chosen based on a desired transverse mode of the optical cavity.

Claim 17 (Previously Presented): Laser according to claim 16, wherein the one or more doped zones is a doped zone positioned substantially centrally in the active lasing medium, dimensions of the doped zone are adapted to a fundamental mode of the optical cavity or to the transverse mode, and at least one of a non-doped peripheral zone has dimensions adapted to the coupling means.

Claim 18 (Previously Presented): Laser according to Claim 16, wherein an area of an input face of the one or more doped zones that receives the pumping beam is smaller than or equal to an area of a fundamental mode of the optical cavity.

Claim 19 (Previously Presented): Laser according to Claim 16, wherein an area of an input face of the one or more doped zones that receives the pumping beam is at least greater than an area of a fundamental mode of the optical cavity, the optical cavity comprising a selection device.

Claim 20 (Previously Presented): Laser according to Claim 16, wherein the active lasing medium comprises a non-doped central zone surrounded by a doped peripheral zone.

Claim 21 (Previously Presented): Laser according to Claim 16, wherein the one or more doped zones has a parallelepiped or circular or elliptical shape.

Claim 22 (Previously Presented): Laser according to Claim 16, wherein the pumping means comprises one or more diode arrays and the coupling means includes a light concentrator for receiving all light emitted by the diode arrays.

Claim 23 (Previously Presented): Laser according to Claim 16, wherein the coupling means comprises at least one of the devices chosen from the group consisting of: a refractive focusing system, a diffractive focusing system, a system working by reflection, and a system for reshaping an extent of a beam.

Claim 24 (Previously Presented): Laser according to Claim 16, wherein the distribution of the dopants in the active lasing medium is made according to a gradient.

Claim 25 (Previously Presented): Laser according to Claim 16, wherein in the doped zones dopants are chosen from among one or more of the ions of the group consisting of: Nd^{3+}, Yb^{3+}, Er^{3+}, Ho^{3+}, Th^{3+}.

Claim 26 (Previously Presented): Laser according to Claim 16, wherein a face of the active lasing medium facing the coupling means is treated to be anti-reflective at a pumping wavelength and reflective at a laser wavelength, and an opposite face of the active medium is treated to be anti-reflective at the laser wavelength.

Claim 27 (Previously Presented): Method for the manufacture of an active lasing medium used in lasers, comprising:

making one or more pieces of a doped matrix and a non-doped matrix; and

assembling the one or more pieces to obtain an active lasing medium including one or more non-homogeneously doped zones in the active lasing medium, which are surrounded by a non-doped region forming a remainder of the active lasing medium and that has practically no dopant or no dopant at all,

wherein at least one of a dimension of said doped zones and a distribution of dopants is chosen based on a desired transverse mode of an optical cavity.

Claim 28 (Previously Presented): Method of manufacture according to Claim 27, wherein the assembling is a step of joining by gluing, molecular adhesion, or diffusion bonding.

Claim 29 (Previously Presented): Method of manufacture according to Claim 27, wherein the assembling is a step for preforming a step-index fiber or for preforming a fiber with a graded index of dopants.

Claim 30 (Previously Presented): Use of the laser according to Claim 16 to amplify one or more laser beams.

Claim 31 (Currently Amended): Longitudinally pumped laser comprising:

an active lasing medium arranged in an optical cavity;

a pumping means emitting a pumping beam toward the active lasing medium;

means for coupling the pumping beam with the active lasing medium; and

one or more non-homogeneously doped zones formed in the active lasing medium and surrounded by a non-doped region at at least one end of the one or more non-homogenously doped zones and forming a remainder of the active lasing medium and that has practically no dopant or no dopant at all.

Claim 32 (Previously Presented): Laser according to Claim 31, wherein the one or more doped zones is a doped zone positioned substantially centrally in the active lasing medium.

Claim 33 (Currently Amended): Longitudinally pumped laser comprising:

an active lasing medium arranged in an optical cavity;

a pumping means emitting a pumping beam toward the active lasing medium;

means for coupling the pumping beam with the active lasing medium; and

one or more non-homogeneously doped zones formed in the active lasing medium and surrounded by a non-doped region forming a remainder of the active lasing medium and that has practically no dopant or no dopant at all; ~~Laser according to Claim 31,~~

wherein an area of an input face of the one or more doped zones that receives the pumping beam is smaller than or equal to an area of a fundamental mode of the optical cavity.

Claim 34 (Previously Presented): Laser according to Claim 16, wherein an area of an input face of the one or more doped zones that receives the pumping beam is at least greater than an area of a fundamental mode of the optical cavity, the optical cavity comprising a selection device.

Claim 35 (Currently Amended): Longitudinally pumped laser comprising:

an active lasing medium arranged in an optical cavity;

a pumping means emitting a pumping beam toward the active lasing medium;

means for coupling the pumping beam with the active lasing medium; and

one or more non-homogeneously doped zones formed in the active lasing medium and surrounded by a non-doped region forming a remainder of the active lasing medium and that has practically no dopant or no dopant at all; ~~Laser according to Claim 31,~~

wherein the active lasing medium comprises a non-doped central zone surrounded by a doped peripheral zone.

Claim 36 (Previously Presented): Laser according to Claim 31, wherein the one or more doped zones has a parallelepiped or circular or elliptical shape.

Claim 37 (Previously Presented): Laser according to Claim 31, wherein the pumping means comprises one or more diode arrays and the coupling means includes a light concentrator for receiving all light emitted by the diode arrays.

Claim 38 (Previously Presented): Laser according to Claim 31, wherein the coupling means comprises at least one of the devices chosen from the group consisting of: a refractive focusing system, a diffractive focusing system, a system working by reflection, and a system for reshaping an extent of a beam.

Claim 39 (Previously Presented): Laser according to Claim 31, wherein a distribution of dopants in the doped zones of the active lasing medium is made according to a gradient.

Claim 40 (Previously Presented): Laser according to Claim 31, wherein in the doped zones dopants are chosen from among one or more of the ions of the group consisting of: Nd^{3+}, Yb^{3+}, Er^{3+}, Ho^{3+}, Th^{3+}.

Claim 41 (Previously Presented): Laser according to Claim 31, wherein a face of the active lasing medium facing the coupling means is treated to be anti-reflective at a pumping wavelength and reflective at a laser wavelength, and an opposite face of the active medium is treated to be anti-reflective at the laser wavelength.

Claim 42 (Previously Presented): Use of the laser according to Claim 31 to amplify one or more laser beams.